



Application No. 08/793,416

Amendment dated November 20, 2006

Reply to Office Action dated May 25, 2004

AMENDMENTS TO THE CLAIMS:

1-19 (canceled)

20. (currently amended) A moulded shield for a source of γ -rays, comprising:

a resilient, cylindrical shield body having a cavity shaped and dimensioned to receive the source, the shield body being in the form of a tube with an inner face, an outer face and a longitudinal slit, wherein the shield body may be selectively opened along the slit so that the shield body can be pushed [[for fitting]] over a pipe so as to permit the passage of the source into the cavity and subsequently closed, the slit extending from the inner face to the outer face at an oblique angle relative to the radius of the shield body and the slit is unsealed along its length to permit opening and closing thereof facilitating [[facilitate]] the passage of the source into the cavity [[therethrough]];

the shield body including a core layer of cured liquid silicone resin loaded with particulate γ radiation-shielding material adapted to surround a radiation source located in the cavity, the core layer being located between two outer layers of solid polymeric material.

21. (original) The shield according to claim 20, wherein the particulate radiation shielding material comprises lead particles.

Application No. 08/793,416
Amendment dated November 20, 2006
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22. (original) The shield according to claim 20, wherein the core is encapsulated in the solid polymeric material.
23. (original) The shield according to claim 20, wherein the solid polymeric material comprises cured liquid resin.
24. (original) The shield according to claim 23, wherein the solid polymeric material comprises silicone.
25. (original) The shield according to claim 20, wherein the outer layers are each 0.5 to 3mm thick.
26. (original) The shield according to claim 20, wherein the core layer is 5 to 50mm thick.
- 27-29 (canceled)
30. (withdrawn) The shield according to claim 28, wherein the slit is in the form of a double-crank.

31. (withdrawn) The shield according to claim 27, further including a second shield body in the form of a tube and including a longitudinal slit, wherein the second shield body is concentrically positioned about the shield body with the longitudinal slit of the second shield body being located at a different circumferential position to the longitudinal slit of the shield body.

32. (withdrawn) The shield according to claim 20, wherein the shield body is composed a plurality of separate cooperating parts which together define the cavity, each of the cooperating parts including a core layer of cured liquid silicone resin loaded with particulate γ radiation-shielding material adapted to surround a radiation source located in the cavity, the core layer being located between two outer layers of solid polymeric material.

33. (withdrawn) The shield according to claim 32, wherein the cooperating parts include a first cylindrical body and a second cylindrical body

34. (withdrawn) The shield according to claim 32, comprising a pair of cooperating parts which fit together to provide a cavity for a pipeline T-junction.

35. (withdrawn) The shield according to claim 32, wherein the parts overlap when fitted together to enclose the cavity and to prevent shine.

36. (withdrawn) The shield according to claim 20, wherein the shield is in the form of a dome.

Application No. 08/793,416
Amendment dated November 20, 2006
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37. (withdrawn) The shield according to claim 20, wherein the shield is in the form of a box.

38. (withdrawn) A method of forming a tubular γ -rays shield, the method including the following steps:

applying a coating of curable liquid resin to a surface of a mandrel while rotating the mandrel about a horizontal axis and until a desired thickness is obtained and curing it to a self-supporting but tacky state to form an inside layer of the shield;

mounting the coated mandrel vertically in a cylindrical mould of larger diameter, with the axis of the mandrel coaxial with that of the mould;

pouring a curable mixture of silicone resin and particulate γ -ray radiation material into the annular gap between the coated mandrel and the cylindrical mould and curing the mixture to a self-supporting but tacky state to form a core layer of the shield;

removing the mandrel coated with the inside layer and core layer from the cylindrical mould, applying a coating of curable liquid resin to an exposed surface of the core layer while rotating the mandrel about a horizontal axis; completing the cure of the layers, and removing the cured shield from the mandrel.